CORRECTIVE MEASURES IMPLEMENTATION (CMI)/ REMEDIAL ACTION IMPLEMENTATION PLAN (RAIP) FORMAT

1.0 GENERAL DESCRIPTION

1.1 Purpose and Scope

This post-ROD document provides the following items for the implementation of the selected remedial action established in the Record of Decision (ROD) (add reference) for the XXX operable unit (OU):

- A general description of the location and history of the site, description of the constituents of concern (COC) to be remedied and an overview of the selected remedial action. See Figure 1 for site location.
- A summary of any associated study (if applicable) and the application of its results in the remedial design
- An outline of the necessary design tasks
- A design summary, highlighting the results of each of the design tasks performed to accomplish the objectives of the selected remedial action
- A summary of the construction strategy, addressing critical components of construction activities required to implement the remedial design
- Requirements for health and safety, waste management, contamination control, decontamination, quality assurance, quality control inspections, performance verification (sampling, testing/analysis, when applicable), post-construction operations, maintenance and institutional control, project closeout, post-construction monitoring and a forecast schedule for implementation of the remedial action
- A forecast schedule and brief discussion of the contents of the upcoming post-ROD documents required by the Federal Facility Agreement (FFA) for the Savannah River Site (SRS)

1.2 General Description and History of the Unit

[Briefly describes the waste unit. The description should include location, size, and the background operational history of the unit. The section may also include a short paragraph identifying the predecessor documents related to the selection of the remedial action. Provide figures showing remedial action location at SRS and a remedial action site layout. A very condensed presentation of information is appropriate for this section

since the same information has been covered in greater details in previous documents required by the FFA process.]

1.3 Nature and Extent of Contamination

[Briefly identifies the COCs, identified in the ROD, that are considered for remedial action and the associated risks, specific components of the unit requiring remediation and locations of COCs with respect to the zone of remediation (areas and depths). Because the information is covered in greater detail in previous FFA documents, a condensed presentation (a synopsis or summary) will be appropriate for this section. Provides figures or maps for the design clarification of data already provided in the ROD to illustrate the nature and horizontal and vertical extent of COCs within the respective media of concern and area(s) targeted/goals for the remedial action.]

1.4 Document Format

1.4.1 Format of CMI/RAIP

[Typically addresses the document format used, including the basis for the format. It also addresses how the generic document (see Section 1.4.2) should be used with this document. This section should include specific details regarding any deviation from the generic description as well as the basis for the deviation.

CMI is used in the title when the waste unit is a Resource Conservation and Recovery Act (RCRA) unit. RAIP is used in the title when the waste unit is a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) unit.]

Figure 1. Title of Figure (Shows location of waste unit)

1.4.2 Format of the Generic Document

[Briefly describes the sections in the generic post-ROD document that shall be used in conjunction with this document.]

1.5 Remedial Action Description

[Briefly describes the remedial action (RA) selected in the ROD. Also, the Conceptual Site Model from the ROD is revised and included to illustrate the broken pathways and remaining risks associated with the operable unit after implementation of the remedy. See Figure 2 for Conceptual Site Model.]

1.6 Remedial Action Objectives (RAOs)

[Briefly describes the ROD's remedial action objectives (i.e., how the COCs in the waste unit will be remediated) and remedial action goals (e.g., clean-up goals for removal action) with reference to the subparts of the source unit (e.g., soils, pipelines, groundwater). The discussion will also include the rationale (e.g., brief explanation of link between RAs and RAOs, industrial land use or ecological concern) for selection of the remedial action objectives and remedial goals. Table 1 lists ARARs associated with the remedial action. Also see Section 2.5.]

1.7 Remedial Action Implementation Schedule

[Provides the unit-specific remedial action implementation schedule as figure or attachment. See Figure 3 for template schedule.]

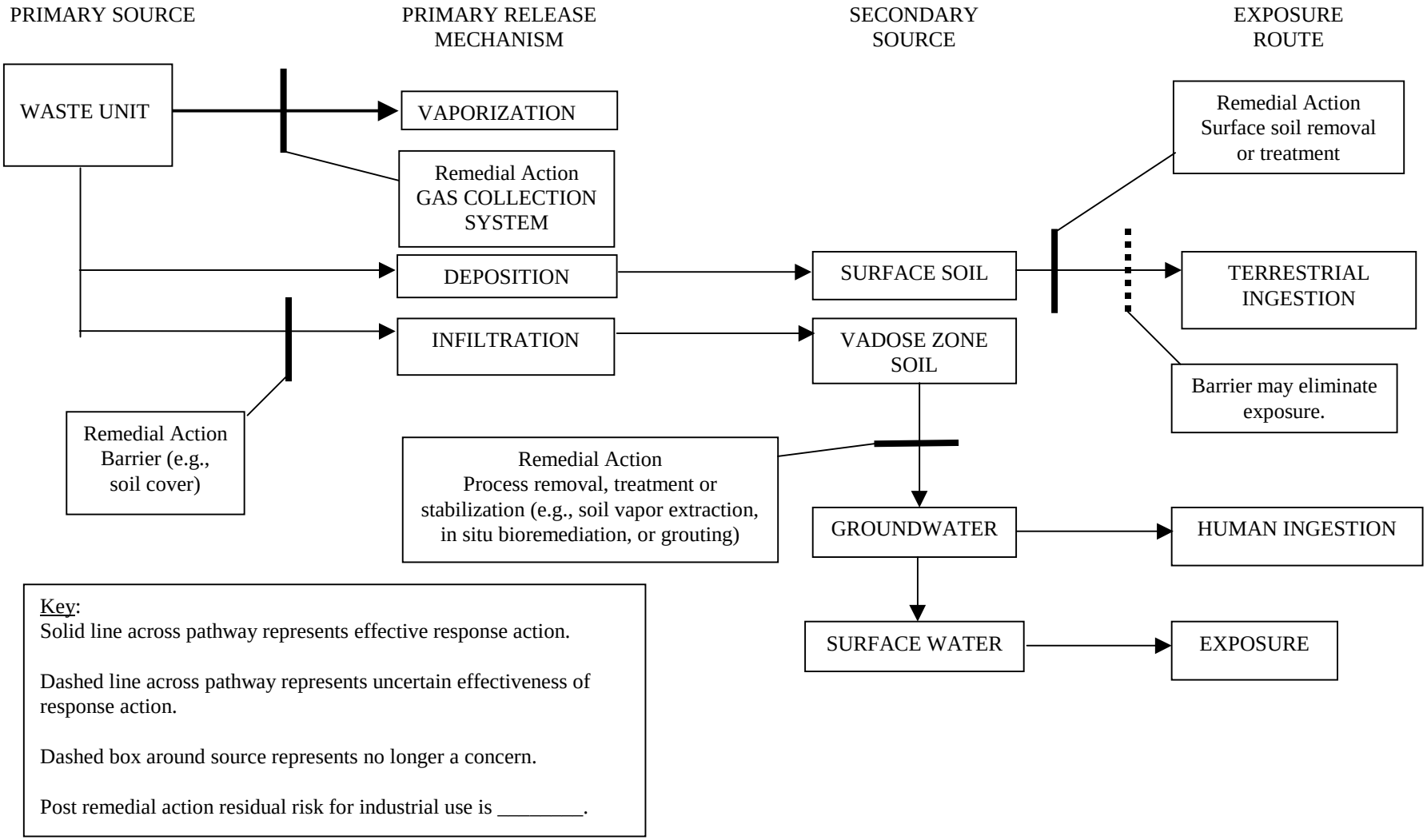

Figure 2. Conceptual Site Model

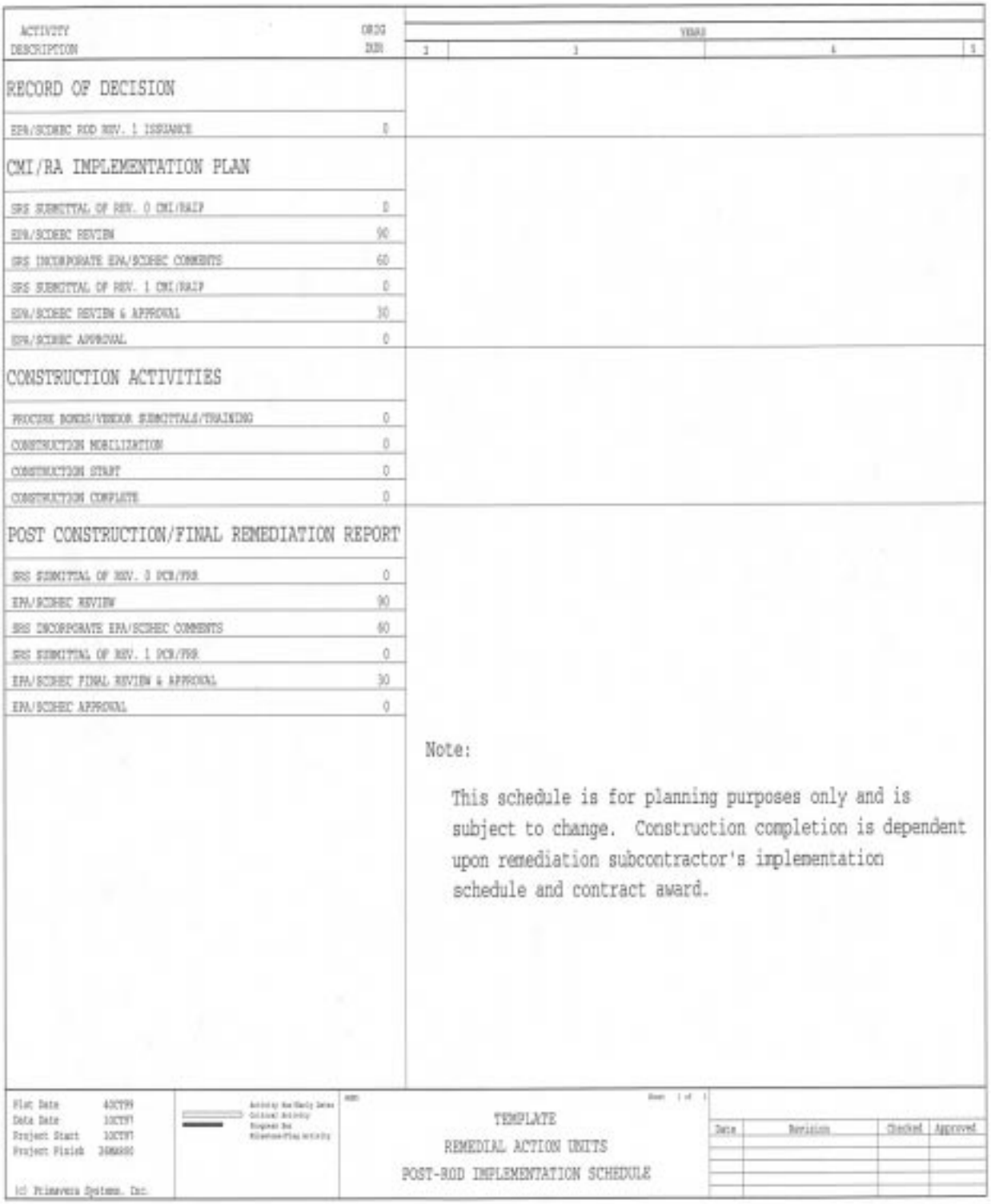

Figure 3. Remedial Action Units Post-ROD Implementation Schedule

1.8 Community Relations

[Provides a brief summary of public involvement activities related to the subject waste unit, including applicable resolutions of public comments by appropriate references to the sections in the ROD. A very condensed presentation of information is appropriate for this section because this information is presented in greater detail in previous documents required by the FFA process.

In addition, this section includes any unit-specific item that was identified for the resolution of public comments, related to the selected remedial action. A fact sheet on the remedial action is attached as Appendix B to inform interested parties about activities related to the remedial action and that an opportunity for a public briefing will be held before initiation of the remedial action.]

2.0 REMEDIAL DESIGN

2.1 Design Strategy

[Provides brief description of the remedial design strategy (e.g., identification of definitive design, performance-based design, vendor supplied design, multi-phased design, etc.).]

2.2 Design Activities

[Provides a list of design tasks, including development of the permit applications required to implement the selected remedial action. This section should also include any design activity that was performed to complete the definitive design, such as treatability studies, bench-scale grout mix design, etc.]

2.3 Design Deliverables

[Provides a list of the design deliverables for this remedial action, including the required permit documents. The list includes design drawings, design technical information, permit documents, applicable sampling, analysis, and test plans, remedial action performance verification plans, etc., which are necessary to verify that the remedial action objectives have been met. The design deliverables listed in this section are applicable to this CMI/RAIP post-ROD document. See the attached Typical Contents of CMI/RAIP for further explanation/typical examples of design deliverables which should be included in this CMI/RAIP document.]

2.4 Results of Data Acquisition

2.4.1 Evaluation of Studies

[Provides a summary level description of any study performed, including the application of the results and conclusion from the study to the remedial design. If no treatability study was performed, a statement should be included to indicate that none was required.]

2.4.2 Other Design Data

[Provides results of any data gathered to support the remedial design (e.g., sampling, topographic, or other surveys). References to all applicable and related reports should also be included.]

2.5 Design Criteria

[Provides the functional requirements and design criteria based on US DOE Orders, national consensus standards, SRS and regulatory requirements needed to ensure the design meets remedial action objectives and goals per the ROD document. Provides a table of applicable or relevant and appropriate requirements (ARAR) (i.e., Table 1) which includes the ARAR type, citation, status, a brief descriptive summary of what the ARAR requires and a brief explanation for inclusion of the ARAR. The list of ARARs will include those in the ROD, related to the selected remedy, and also any additional ARARs identified during the remedial design process. Also see Section 1.6.]

Table 1. Compliance with ARARs for the Selected Remedial Action

	Citations (S)	Status	Requirement Summary	Reason for Inclusion
A)	**<u>Chemical Specific ARAR</u>**			
	40 CFR 263 and SC 4.61-79.263 Standards Applicable to Transporters of Hazardous Waste (For example)	Applicable	Identifies transporter requirements including manifests, record keeping, and actions for accidental waste discharges.	Applicable to offsite transportation of RCRA hazardous waste.
B)	**<u>Location Specific ARAR</u>**			
	Executive Order 11990 (For example)	Applicable	The remedial action must minimize the destruction, loss, or degradation of wetlands.	Wetlands are located in the vicinity of the waste unit; however, they will be unaffected by this action.

Table 1. Compliance with ARARs for the Selected Remedial Action (Continued)

	Citations (S)	Status	Requirement Summary	Reason for Inclusion
C)	**<u>Action Specific ARARs</u>**			
	SC R.72-300 Standards for Stormwater Management and Sediment Reduction (For example)	Applicable	Stormwater management and sediment control plan for land disturbances.	Excavation activities will require an erosion control plan.
	29 CFR 1910 Occupational Worker Safety (OSHA) (For example)	Applicable	Identifies health and safety requirements for remediation workers.	Worker activities involving hazardous materials must be conducted according to a project health and safety plan.

2.6 Drawings

[Provides a list and brief description of the design drawings developed during the remedial design. See the attached Typical Contents of CMI/RAIP for further explanation/examples of design deliverables which should be included in this CMI/RAIP document.]

2.7 Design Technical Information

[Provides a summary of the construction specifications developed during the remedial design. See attached table for typical contents of the specification that should be included in the CMI/RAIP document, based on the type of remedial action.]

3.0 PERMITTING REQUIREMENTS

[Identifies and describes all permitting activities required for the selected remedial action. The related schedule for each applicable regulatory permit submittal is also included. See attached table for typical permit documents, based on the type of remedial action, which should be included in the CMI/RAIP document. Permit documents, which are usually approved by other departments or authorized representatives of US EPA or SCDHEC (e.g., Stormwater Management and Sediment Reduction Plans, Monitoring Well Program Plans, Air Quality Control Permits) may be included as reference documents but not as attachments. If this is the case, add a statement on the cover sheet of the document that reads “Reference - For Information Only.”]

4.0 CONSTRUCTION

4.1 Construction Strategy

[Provides a brief description of the construction strategy (e.g., discussion of construction in phases, construction by subcontractor, construction using new technology, etc.) for implementation of the remedial design.]

4.2 Construction Activities

[Provides a summary of the conceptual construction activities that are critical for implementation of the remedial action. Unless such activities have been concurred with by the constructor, at this stage they will be considered conceptual (anticipated based on past experiences).]

4.3 Remedial Design Change Control

[Provides a standard procedure for documenting and reporting changes to the remedial design after the remedial design document has been approved by US EPA and SCDHEC. This section will be included in the generic document. The following statement or similar words with the same intent) should be included in this section. "US DOE will notify US EPA and SCDHEC, within a reasonable time frame, when significant problems arise with any aspect of the Remedial Design/Remedial Action process. In particular, scheduling, budget and implementability/technical issues should be brought to the attention of the regulators as soon as they are identified. Notifications will follow established protocols for major and minor changes during construction."]

4.4 Waste Disposal and Transport

[Describes the method, consistent with SRS procedures, that will be used for waste characterization (e.g., testing methods), disposal (include location such as on-site, off-site at SRS, off-SRS at xyz facility) and transportation (include contaminant limits) during construction, as applicable to the selected remedial action. It also includes the status of any permit required for handling, disposing, and transporting wastes. Unless a unit-specific plan is required by permit requirements per SRS procedures, the Waste Management Plan need not be included as an attachment to the CMI/RAIP.]

4.5 Quality Assurance

[Provides a summary of quality assurance (QA) and quality control procedures that will be implemented to ensure successful implementation of the remedial action. It also includes any special or unit-specific strategy applicable to the remedial action. Except for the unit-specific items, this section will be included in the generic document.]

4.6 Non-Conformances

[Provides the anticipated steps and procedures that will be used to resolve construction non-conformances with respect to the required acceptance criteria in the specifications.] This section also provides a description of the contingency plan to be used during this construction phase if construction activities cannot be completed as designed.

4.7 Health and Safety Plan (HASP)

[This section provides health and safety requirements, consistent with SRS procedures, that will be implemented during the remedial action. The section includes any special or unit-specific requirements for worker safety during construction. Except for unit-specific items, this section will be included in the generic document. The HASP may be included with the post-ROD document package for reference only; it should not be used as an attachment to the CMI/RAIP. If this is the case, add a statement on the cover sheet of the document that reads "Reference – For Information Only".]

5.0 POST CONSTRUCTION

5.1 Post-Construction Monitoring

[Provides the long- and short-term plans (including type of sampling, sampling frequency, criteria, and reporting information) to monitor the effectiveness of the implemented remedial action (e.g., monitoring of groundwater affected by the remediated unit). Includes maps showing the location of remediation and zone of influence. Map should show general grids coordinates but not exact coordinates of remediation actions. Also, provides criteria for turnover to the next remedial phase (e.g., startup to operation phase).]

5.2 Contingency Plan Implementation Strategy

[Refers to the HASP for standard SRS emergency procedures. This section provides for contingencies after completion of construction, including any special or unit-specific responses and actions to be taken if the implemented remedial action fails to perform.]

5.3 Operations, Maintenance, and Institutional Control

[Describes start-up and operational procedures for equipment and process systems required by selected remedial action. The section also provides maintenance and institutional control information. In addition, it includes any special or unit-specific requirements applicable to the selected remedial action. For final action RODs requiring land use controls, a LUCIP will be included in the CMI/RAIP. However, for interim actions in which the final remedial action has not been finalized, a LUCIP is not applicable. The duration of land use controls will be specified. Standard maintenance and institutional control requirements identified in the LUCIP. See Appendix A. The generic document (later) will include the LUCIP.]

5.4 Requirements for Project Closeout

[Provides field data collection and performance verification requirements (including sampling, analysis, and testing plans, when applicable) and procedures to verify that the remedial action objectives have been met. It also addresses updating the design documents as required for configuration management to incorporate design changes during construction. Standard practices will be included in the generic document.]

5.5 Schedule for Federal Facility Agreement Deliverables

[Provides submittal schedule for the next post-ROD documents (Post-Construction Report (PCR) and the Final Remediation Report (FRR)) required by the FFA. For waste sites not requiring an extended operational equipment remedial action, the PCR and FRR may be combined into a single document. See Figure 3 for typical schedule.]

6.0 REFERENCES

[Provides a list of documents referenced in the body of the CMI/RAIP document. If a copy of any reference is included in the package, add the statement "Copy included for information" after the reference is cited in the list.]

7.0 ATTACHMENTS

[Attach design drawings and plans referenced in the body of the CMI/RAIP. Include engineering design drawings and plans and vendor-supplied design drawings and plans. Construction and fabrication documents, which are not design documents, need not be included.]

8.0 APPENDIX

Appendix A [Provide the unit-specific LUCIP as required by the LUCAP.]

Appendix B [Provide the unit-specific fact sheet.]

ATTACHMENT A

LIST OF DRAWINGS

[Provides lists of attachments, containing the design drawings and plans related to this CMI/RAIP. See the attached table to this format, which identifies the recommended lists of drawings and plans.]

APPENDIX A

LUCIP
(Unit Specific Item)

APPENDIX B

FACT SHEET

[Remedial Action Title] Fact Sheet

Location

[Briefly describes the waste unit. The description should include location and size of the unit.]

History

[Briefly describes the waste unit's history. The description should describe the operation of the facility, the duration of use and the type of contamination deposited.]

Remedial Action

[Briefly describes the remedial action selected in the ROD, the broken pathways and the remaining risks associated with the operable unit after implementation of the remedy. Also, describes the land use controls and specifies its duration.]